Engineering has completed a partial review of the plans for the Masonboro Trace project submitted March 24, 2016 and have the following comments:

Stormwater Management Permit Application Form:

1. IV. Project Information; Line Item #14: The percent impervious area is incorrect. Please revise.

Wet Detention Basin Supplement:

2. II. Design Information; Site Characteristics; Impervious area, post-development: This number does not match the total impervious area listed in the narrative or application. Please clarify.
3. II. Design Information; Storage Volume: SA Waters: Please verify the pre and post-development 1-yr, 24-hr runoff numbers.
4. II. Design Information; Peak Flow Calculations; Rational C, pre-development: Revise the Rational C per the comment in the Calculations portion of my review comments.
5. II. Design Information; Peak Flow Calculations; Rainfall Intensity: 1-yr, 24-hr storm: Please verify the 5.10 in/hr rainfall intensity.
6. Please provide soils report in order to verify Seasonal High Water Table elevation.
7. Please provide stage storage calculations for the entire pond in order to verify pond elevation, surface area and volume entries in the supplement.
8. There is a discrepancy regarding the calculation option used to determine the average depth. The supplement has option1 completed, but the pond calculations use option 2. Please revise.
9. There is a discrepancy regarding the SA/DA determination between the pond calculations and the supplement. Please clarify.

Wet Detention Basin Operation and Maintenance Agreement:

No comments

Calculations:

10. Please provide runoff coefficient and curve number calculations.
11. Culvert calculations list pipe material as PVC with an N-value of 0.012. Plans list culverts as RCP. Please clarify.
12. Please provide energy dissipater calculations.
13. Please provide headwater depth calculations for the culverts.
14. The C-value for predevelopment for sandy soils per the TSSM is a minimum of 0.10 and a maximum of 0.15 for sandy soils. Please revise your C-value unless a soils report shows that the site has clay soils, then a value up to 0.20 would be acceptable.
15. There is a discrepancy regarding the SA/DA determination between the pond calculations and the supplement. Please clarify.
16. The forebay bottom elevation in the pond calculations (18.80') doesn't match the elevation listed in the supplement and plans (18.30'). Please revise.
17. I cannot verify the forebay volume calculation. It would appear some of the variables for the equation were not provided.
18. The required volume for the forebay is 20% of the permanent pool. The calculations show it as 20% of the temporary storage provided. Please correct.

Plans:

DA Plan

19. Please add 15" RCP driveway pipe drainage area to DA map. Label with acreage.
20. Label swale DA's and pond DA with acreages.
21. How will runoff from the portion of lot 8 not included in the drainage area of swale #1 be collected and treated in the wet detention pond?
22. Please verify that there isn't any off-site areas draining to the proposed conveyance swales and ultimately to the wet detention basin.

C1-Site, Grading, Drainage, Utility and Stormwater Plan

23. Please add more spot elevations or contours to verify swales can be constructed along the southern side of Cordgrass Lane with adequate dimensions to collect and contain runoff for the designed storm.
24. Verify the proposed fire hydrant can be installed where shown and not negatively impact swale #1.
25. Please provide approximate building pad elevations for the lots to the plans to ensure runoff is directed towards the street.